



--- F.3d ---, 2012 WL 5870735 (C.A.Fed. (Va.))
(Cite as: 2012 WL 5870735 (C.A.Fed. (Va.)))



Only the Westlaw citation is currently available.

United States Court of Appeals,
Federal Circuit.
EPLUS, INC., Plaintiff–Cross Appellant,
v.
LAWSON SOFTWARE, INC., Defendant–Appellant.

Nos. 2011–1396, 2011–1456, 2011–1554.
Nov. 21, 2012.

Background: Patentee brought action against competitor alleging infringement of patents directed toward systems and methods for “electronic sourcing,” or online shopping. The United States District Court for the Eastern District of Virginia, [Robert E. Payne](#), Senior District Judge, [764 F.Supp.2d 807](#), granted competitor's motion in limine to exclude patentee's expert from testifying at trial, and then granted judgment for patentee after jury verdict in its favor. Parties appealed.

Holdings: The Court of Appeals, [Probst](#), Circuit Judge, held that:

- (1) competitor did not waive argument that specification did not disclose accompanying structure for “means for processing” limitation by not raising indefiniteness issue during trial;
- (2) specification did not disclose sufficient structure for “means for processing” limitation, and thus system claims were invalid as indefinite even if implementing that functionality already was known prior to patent;
- (3) jury was free to rely on plain and ordinary meaning of term “determining” and conclude that user who prompted vendor to report whether particular item was available “determines” whether that item was available;
- (4) circumstantial evidence permitted reasonable jury to infer that competitor had performed steps of claim;
- (5) patentee did not establish that more likely than not at least one user used accused systems to perform converting data step;
- (6) district court did not abuse its discretion in granting permanent injunction to prevent competitor from servicing and maintaining products sold before in-

junction issued, although damages were not at issue;
(7) district court did not abuse its discretion in excluding patentee's damages expert; and
(8) district court did not abuse its discretion by preventing patentee from presenting evidence of damages.

Affirmed in part, reversed in part, vacated in part, and remanded.

West Headnotes

[\[1\] Courts 106](#) [96\(7\)](#)

[106](#) Courts

[106II](#) Establishment, Organization, and Procedure

[106II\(G\)](#) Rules of Decision

[106k88](#) Previous Decisions as Controlling or as Precedents

[106k96](#) Decisions of United States Courts as Authority in Other United States Courts

[106k96\(7\)](#) k. Particular Questions or Subject Matter. [Most Cited Cases](#)

In a patent case, a district court's denial or grant of a judgment as a matter of law (JMOL) is reviewed under regional circuit law.

[\[2\] Federal Courts 170B](#) [776](#)

[170B](#) Federal Courts

[170BVIII](#) Courts of Appeals

[170BVIII\(K\)](#) Scope, Standards, and Extent

[170BVIII\(K\)1](#) In General

[170Bk776](#) k. Trial De Novo. [Most Cited Cases](#)

The Fourth Circuit reviews de novo a denial of judgment as a matter of law (JMOL) for whether substantial evidence supports the jury's verdict.

[\[3\] Patents 291](#) [324.5](#)

[291](#) Patents

[291XII](#) Infringement

[291XII\(B\)](#) Actions

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[291k324](#) Appeal
[291k324.5](#) k. Scope and Extent of Review in General. [Most Cited Cases](#)

De novo review applies to a district court's decision regarding patent indefiniteness, as it is a question of law.

[4] Federal Courts 170B 814.1

[170B](#) Federal Courts
[170BVIII](#) Courts of Appeals
[170BVIII\(K\)](#) Scope, Standards, and Extent
[170BVIII\(K\)4](#) Discretion of Lower Court
[170Bk814](#) Injunction
[170Bk814.1](#) k. In General. [Most Cited Cases](#)

A district court's decision to grant an injunction and the scope of the injunction are reviewed for abuse of discretion.

[5] Courts 106 96(7)

[106](#) Courts
[106II](#) Establishment, Organization, and Procedure
[106II\(G\)](#) Rules of Decision
[106k88](#) Previous Decisions as Controlling or as Precedents
[106k96](#) Decisions of United States Courts as Authority in Other United States Courts
[106k96\(7\)](#) k. Particular Questions or Subject Matter. [Most Cited Cases](#)

In a patent case, regional circuit law governs the review of a district court's decision of whether to admit expert testimony.

[6] Courts 106 96(7)

[106](#) Courts
[106II](#) Establishment, Organization, and Procedure
[106II\(G\)](#) Rules of Decision
[106k88](#) Previous Decisions as Controlling or as Precedents
[106k96](#) Decisions of United States Courts as Authority in Other United States Courts
[106k96\(7\)](#) k. Particular Questions or Subject Matter. [Most Cited Cases](#)

In a patent case, regional circuit law governs the review of a district court's decision of whether to sanction a litigant. [Fed.Rules Civ.Proc.Rule 37, 28 U.S.C.A.](#)

[7] Federal Courts 170B 823

[170B](#) Federal Courts
[170BVIII](#) Courts of Appeals
[170BVIII\(K\)](#) Scope, Standards, and Extent
[170BVIII\(K\)4](#) Discretion of Lower Court
[170Bk823](#) k. Reception of Evidence.
[Most Cited Cases](#)

The Fourth Circuit reviews a district court's decision of whether to admit expert testimony for abuse of discretion.

[8] Federal Courts 170B 820

[170B](#) Federal Courts
[170BVIII](#) Courts of Appeals
[170BVIII\(K\)](#) Scope, Standards, and Extent
[170BVIII\(K\)4](#) Discretion of Lower Court
[170Bk820](#) k. Depositions and Discovery. [Most Cited Cases](#)

The Fourth Circuit reviews a district court's decision of whether to sanction a litigant for abuse of discretion. [Fed.Rules Civ.Proc.Rule 37, 28 U.S.C.A.](#)

[9] Patents 291 324.1

[291](#) Patents
[291XII](#) Infringement
[291XII\(B\)](#) Actions
[291k324](#) Appeal
[291k324.1](#) k. In General. [Most Cited Cases](#)

Competitor did not waive argument that specification for patents directed toward systems and methods for “electronic sourcing” or online shopping did not disclose accompanying structure for “means for processing” limitation by not raising indefiniteness issue during trial, where competitor had moved for summary judgment, arguing that specification did not adequately disclose structure for “means for processing” limitation, and district court rejected that argument and regarded its ruling to be the last word on

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that matter until appeal, and competitor moved for judgment as matter of law (JMOL) before close of evidence and after trial. [35 U.S.C.A. § 112](#); [Fed.Rules Civ.Proc.Rule 56](#), 28 U.S.C.A.

[10] Federal Courts 170B 617

[170B](#) Federal Courts

[170BVIII](#) Courts of Appeals

[170BVIII\(D\)](#) Presentation and Reservation in Lower Court of Grounds of Review

[170BVIII\(D\)1](#) Issues and Questions in Lower Court

[170Bk617](#) k. Sufficiency of Presentation of Questions. [Most Cited Cases](#)

A party may preserve an issue for appeal by re-newing the issue at trial or by including it in memo-randa of law or proposed conclusions of law.

[11] Patents 291 101(8)

[291](#) Patents

[291IV](#) Applications and Proceedings Thereon

[291k101](#) Claims

[291k101\(8\)](#) k. Functions, Advantages or Results of Invention. [Most Cited Cases](#)

Specification for patent directed toward system for “electronic sourcing” or online shopping did not disclose sufficient structure for “means for pro-cessing” limitation, and thus system claims were in-valid as indefinite even if implementing that func-tionality already was known prior to patent, where function claimed was generating one or more purchase orders based on requisition list, but there was no in-struction for using particular piece of hardware, em-ploying specific source code, or following particular algorithm. [35 U.S.C.A. § 112](#).

[12] Patents 291 101(8)

[291](#) Patents

[291IV](#) Applications and Proceedings Thereon

[291k101](#) Claims

[291k101\(8\)](#) k. Functions, Advantages or Results of Invention. [Most Cited Cases](#)

A patent applicant who employs means-plus-function language must set forth in the

specification an adequate disclosure showing what is meant by that language. [35 U.S.C.A. § 112](#).

[13] Patents 291 101(8)

[291](#) Patents

[291IV](#) Applications and Proceedings Thereon

[291k101](#) Claims

[291k101\(8\)](#) k. Functions, Advantages or Results of Invention. [Most Cited Cases](#)

In a means-plus-function claim in which the dis-closed structure is a computer programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special pur-pose computer programmed to perform the disclosed algorithm. [35 U.S.C.A. § 112](#).

[14] Patents 291 101(6)

[291](#) Patents

[291IV](#) Applications and Proceedings Thereon

[291k101](#) Claims

[291k101\(6\)](#) k. Ambiguity, Uncertainty or Indefiniteness. [Most Cited Cases](#)

The patent indefiniteness inquiry is concerned with whether the bounds of the invention are suffi-ciently demarcated, not with whether one of ordinary skill in the art may find a way to practice the inven-tion; therefore, to assess whether a claim is indefinite, a court does not look to the knowledge of one skilled in the art apart from and unconnected to the disclosure of the patent, but, rather looks at the disclosure of the patent and determine if one of skill in the art would have understood that disclosure to encompass the required structure. [35 U.S.C.A. § 112](#).

[15] Patents 291 101(11)

[291](#) Patents

[291IV](#) Applications and Proceedings Thereon

[291k101](#) Claims

[291k101\(11\)](#) k. Process or Method Claims. [Most Cited Cases](#)

Jury was free to rely on plain and ordinary meaning of term “determining” and conclude that user who prompted vendor to report whether particular item was available “determines” whether that item

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was available, as one may call and speak to sales representative at local store to determine whether certain item was in stock, when considering claim that accused product infringed patent directed toward method for “electronic sourcing” or online shopping.

[\[16\] Patents 291](#) [312\(8\)](#)

[291](#) Patents
[291XII](#) Infringement
[291XII\(B\)](#) Actions
[291k312](#) Evidence
[291k312\(3\)](#) Weight and Sufficiency
[291k312\(8\)](#) k. Participation, Intent, and Contributory Infringement. [Most Cited Cases](#)

Circumstantial evidence permitted reasonable jury to infer that competitor had performed steps of claim in patent directed toward system for “electronic sourcing” or online shopping, on claim of induced infringement, where there was evidence that competitor installed, maintained, demonstrated, and managed infringing systems for its customers, evidence included course catalogs and webinar presentations offered by competitor to its customers, and competitor's professional services included developing, installing, and testing “up to and including bringing a system live” for its customers.

[\[17\] Patents 291](#) [229](#)

[291](#) Patents
[291XII](#) Infringement
[291XII\(A\)](#) What Constitutes Infringement
[291k228](#) Patents for Processes
[291k229](#) k. Identity in General. [Most Cited Cases](#)

Patentee did not establish that more likely than not at least one user used accused systems to perform converting data step, in patents directed toward method for “electronic sourcing” or online shopping, where every mention of converting step referred to capability of accused system, not actual act of infringement; one reference of use of international coding standard by competitor itself was only to teach its customers how to “find[] items by [those] categories,” not to use those categories to convert desired item offered by one vendor to equivalent item offered by another.

[\[18\] Patents 291](#) [317](#)

[291](#) Patents
[291XII](#) Infringement
[291XII\(B\)](#) Actions
[291k317](#) k. Permanent Injunction. [Most Cited Cases](#)

District court did not abuse its discretion in granting permanent injunction to prevent competitor from servicing and maintaining products sold before injunction issued, although damages were not at issue; damages were not at issue due to court's enforcement of discovery rules, and that did not mean that competitor was authorized to sell products that infringed patent.

[\[19\] Evidence 157](#) [555.9](#)

[157](#) Evidence
[157XII](#) Opinion Evidence
[157XII\(D\)](#) Examination of Experts
[157k555](#) Basis of Opinion
[157k555.9](#) k. Damages. [Most Cited Cases](#)

District court did not abuse its discretion in excluding patentee's damages expert, on basis that expert's analytical method for determining royalty rate was flawed and unreliable, where license agreements were not sufficiently probative because they had been obtained during litigation and included lump-sums received for multiple patents and cross-licensing deals, and expert had ignored settlements that produced smaller rates, even though one of them included percentage rate rather than lump sum.

[\[20\] Patents 291](#) [292.4](#)

[291](#) Patents
[291XII](#) Infringement
[291XII\(B\)](#) Actions
[291k292](#) Discovery
[291k292.4](#) k. Other Matters. [Most Cited Cases](#)

District court did not abuse its discretion by preventing patentee from presenting evidence of damages, after excluding patentee's damages expert on

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basis that expert's analytical method for determining royalty rate was flawed and unreliable, where court reasonably had been concerned that any last-minute addition to the record would disrupt the proceedings and cause unacceptable delay, and court also was concerned that patentee would expose competitor to unjustified risk of prejudice by changing damage calculation methodology on eve of trial.

Patents 291 328(2)

[291](#) Patents

[291XIII](#) Decisions on the Validity, Construction, and Infringement of Particular Patents

[291k328](#) Patents Enumerated

[291k328\(2\)](#) k. Original Utility. [Most Cited Cases](#)

Patents 291 328(2)

[291](#) Patents

[291XIII](#) Decisions on the Validity, Construction, and Infringement of Particular Patents

[291k328](#) Patents Enumerated

[291k328\(2\)](#) k. Original Utility. [Most Cited Cases](#)

6,023,683. Invalid in Part.

6,505,172. Cited.

[Scott L. Robertson](#), Goodwin Procter, LLP, of Washington, DC, and [Michael G. Strapp](#) of Boston, MA, argued for plaintiff-cross appellant. With them on the brief were [Jennifer A. Albert](#) and [David M. Young](#), of Washington, DC, and [Henry C. Dinger](#) of Boston, MA.

[Donald R. Dunner](#), Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, of Washington, DC, argued for defendant-appellant. With him on the brief were [Kara F. Stoll](#), [Molly R. Silfen](#), [Justin R. Lowery](#), and [Elizabeth Ann Laughton](#); and [Erika H. Arner](#), of Reston, VA.

Before [DYK](#), [PROST](#), and [O'MALLEY](#), Circuit Judges.

[PROST](#), Circuit Judge.

*1 This is an appeal and a cross-appeal arising

from an infringement suit brought by ePlus, Inc. against Lawson Software, Inc. ("Lawson"), in which a jury found that Lawson infringes ePlus's method and system claims. Lawson appeals, arguing that the system claims are indefinite and that the evidence of infringement of the method claims does not support the jury's verdict. Accordingly, Lawson submits that the district court should have set aside the verdict and entered a judgment as a matter of law ("JMOL") of non-infringement. Moreover, in case the verdict withstands this appeal, Lawson urges us to at least hold that the district court erred by entering too broad an injunction to remedy the infringement. ePlus cross appeals, arguing that the district court abused its discretion in barring it from presenting any evidence of damages at trial. We agree with Lawson that the district court erred in finding that the system claims are not indefinite, and in that respect, we reverse the district court's determination. We also reverse in part the district court's denial of JMOL to Lawson and accordingly vacate the judgment of direct and induced infringement entered based on two of the asserted method claims. We remand for the district court to consider what changes are required to the terms of the injunction, consistent with this opinion. In all other aspects of the appeal and the cross-appeal, we affirm.

I. BACKGROUND

A. The Asserted Patents

ePlus is the assignee of [U.S. Patent Nos. 6,023,683](#) ("[683 patent](#)") and [6,505,172](#) ("[172 patent](#)"). (collectively, "patents in suit"). The patents in suit share a common specification and teach systems and methods for "electronic sourcing." At a high level of generality, electronic sourcing is similar to online shopping. Specifically, ePlus's patents aim to enable businesses and organizations to use computer networks to purchase goods. The specification explains that electronic sourcing systems existed in prior art, but those older systems only enabled the user to generate a single purchase order that would be submitted to a single vendor. In contrast, one of the important features of the claimed invention is its ability to divide a single requisition (or shopping list) into multiple purchase orders.

The patented invention includes a computer that maintains a catalog database of items available from at least two vendors. Vendors may be manufacturers, distributors, or resellers. The user can search vendor catalogs for items that match certain criteria, contact

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vendors to determine whether a particular product is available, and switch between different catalogs to look at equivalent items. The customer then purchases the desired items. The claims and the specification break down the purchasing process into three steps. First, the customer adds the desired item to an “order list” (somewhat akin to a wish list). Second, once the customer is ready to make a purchase, the system uses the order list to build a “requisition.” Third, the system determines what inventory will be used to complete or “fill” the requisition and accordingly generates “purchase orders,” which are submitted to vendors.

*2 There are five claims at issue on this appeal: claim 1 of the '[172 patent](#)' and claims 3, 26, 28, and 29 of the '[683 patent](#)'. Claims 26, 28, and 29 of the '[683 patent](#)' are method claims; the remaining two are system claims. Claim 26 of the '[683 patent](#)' recites:

26. A method comprising the steps of:

maintaining at least two product catalogs on a database containing data relating to items associated with the respective sources;

selecting the product catalogs to search;

searching for matching items among the selected product catalogs;

building a requisition using data relating to selected matching items and their associated source(s);

processing the requisition to generate one or more purchase orders for the selected matching items; and

determining whether a selected matching item is available in inventory.

(Emphasis added.) Independent claim 28 is similar to claim 26, except that the last limitation in claim 28 recites:

converting data relating to a selected matching item and an associated source to data relating to an item and a different source.

(Emphasis added.) The third and last method claim, claim 29, depends from claim 28. It recites:

29. The method of claim 28 further comprising the step of *determining whether a selected matching*

item is available in inventory.

(Emphasis added.)

The two system claims are indistinguishable for the purpose of this appeal. Claim 1 of the '[172 patent](#)', which we treat as representative, recites:

1. An electronic sourcing system comprising:

a database containing data relating to items associated with at least two vendors maintained so that selected portions of the database may be searched separately;

means for entering product information that at least partially describes at least one desired item;

means for searching for matching items that match the entered product information in the selected portions of the database;

means for generating an order list that includes at least one matching item selected by said means for searching;

means for building a requisition that uses data obtained from said database relating to selected matching items on said order list;

means for processing said requisition to generate purchase orders for said selected matching items.

B. The Accused Product

Lawson sells computer software for supply chain management. Lawson's customers are often large organizations that use its products to purchase goods and services. The software products are modular—that is, they are sold in building blocks, which customers may purchase according to their needs. The “Core Procurement” unit is the basic building block; all customers must have it. Core Procurement is responsible for most of the basic operations of Lawson's system. Using Core Procurement, a customer can search an internal item database known as the “Item Master” to find desired products. The desired products may be added to a requisition, which is basically a list of items to be purchased, and it may include items available from various vendors. The customer may look up whether a particular item in the Item Master is

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available in the vendor's inventory. If the customer decides to purchase the items in the requisition, she can create purchase orders. Purchase orders will then be submitted to vendors.

***3** Other “add-on” modules may be added to Core Procurement for additional functionality. Three of those modules are pertinent here: (1) the “Requisition Self Service” (“RSS”) module, (2) “Punchout,” and (3) “Electronic Data Interchange” (“EDI”). RSS provides the user with a user-friendly interface for using the features offered by the Core Procurement module. RSS also allows the user to add the desired items to a “shopping cart” before placing the items in requisition. Similar to Core Procurement, however, RSS can only access the internal (Item Master) catalog. Customers who want to search third party vendors' databases must therefore use other modules, such as Punchout. Punchout may be added to a system that includes Core Procurement and RSS. By adding Punchout, customers gain the ability to connect to a third party vendor's website to shop for products. The parties refer to this ability as “punching out.” Once a customer connects to the third party vendor's website, she may use the vendor's search engine to search for items to purchase. After the customer selects an item, the third party may respond with whether that item is available in its inventory. That is, when the customer uses Punchout, it is the vendor (not the customer) who has direct access to information about whether a particular item is available in the inventory. Finally, EDI builds on Punchout by enabling customers to send purchase orders outside Lawson's system to a third party vendor.

In addition to selling procurement software, Lawson provides services to customers who purchase its products. These services may include installation and maintenance of the products as well as providing training classes (through webinars) and educational materials that aid in operating Lawson's software. Customers may also rely on Lawson for managing their system. This so called “hosting” can be arranged in two ways. Lawson may provide the customer with a computer that runs the purchased software, in which case the actual hardware and software reside at the customer's facility. Alternatively, Lawson may allow the customer to remotely access servers that are physically located within Lawson's facility and run the procurement software.

C. The District Court Proceedings

ePlus filed suit against Lawson, alleging that various combinations of Lawson's software modules infringe claim 1 of the '[172 patent](#)' and claims 3, 26, 28, and 29 of the '[683 patent](#)', as well as other patent claims not at issue on this appeal. Specifically, with respect to the two asserted system claims, ePlus alleged that certain combinations of Lawson's software modules are infringing. As to the method claims, ePlus alleged that (1) Lawson induces its customers to use its software programs to perform all of the steps of the asserted method claims; (2) Lawson itself infringes the method claims by demonstrating, installing, managing, and maintaining its software products for its customers; and (3) Lawson, its customers, and third party vendors jointly infringe the asserted method claims.

***4** Three of the proceedings that occurred before the trial are relevant to this appeal. First, at the summary judgment stage, Lawson argued in pertinent part that claim 1 of the '[172 patent](#)' and claim 3 of the '[683 patent](#)' are invalid as indefinite because the specification does not disclose adequate structure for the “means for processing” means plus limitation, which exists in both claims. The district court denied Lawson's motion. Second, Lawson moved the trial court to exclude the testimony of ePlus's damages expert, Dr. Mangum, under [Daubert v. Merrell Dow Pharmaceuticals, Inc.](#), 509 U.S. 579, 596, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993). The district court agreed with Lawson and found that Dr. Mangum's testimony was analytically flawed and thus had to be excluded. Third, once Dr. Mangum's testimony had been barred, Lawson moved the district court to also bar ePlus, pursuant to [Rule 37](#), from presenting any evidence of damages during trial at all, arguing that ePlus had failed to disclose an alternate royalty rate that could otherwise support its claim for monetary damages. [Fed.R.Civ.P. 37](#). The district court again agreed with Lawson. It found that ePlus had not provided Lawson with adequate notice of its royalty rate theory in violation of [Rule 26\(f\)](#), [Fed.R.Civ.P. 26\(f\)](#), and that allowing ePlus to supplement the record on the eve of trial would cause disruption in the proceedings and undue prejudice to Lawson.

The case was then tried to a jury. Notably, Lawson did not raise the indefiniteness issue during trial, apparently based on its understanding that as an issue of law, indefiniteness did not need to be presented to

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the jury. Before the close of the evidence, Lawson sought a JMOL under Rule 50(a), but it did not raise the indefiniteness issue in its brief. [Fed.R.Civ.P. 50\(a\)](#). At the hearing for the JMOL motion, Lawson's counsel informed the district court that it still disagreed with the district court's indefiniteness ruling but stated that since indefiniteness was an issue of law, there was no need for the district court to "rerule" on it to preserve it for appeal. J.A. 3929. Nonetheless, Lawson's counsel tried to ensure that the issue was preserved for appeal:

[LAWSON'S COUNSEL]: Th[e] summary judgment [of indefiniteness] was denied. It's my understanding that that issue is now preserved for appeal and that Your Honor doesn't have to rerule on it, but just to make the record clear,

Lawson again moves for judgment as a matter of law on [indefiniteness]

THE COURT: How can you do that?

[LAWSON'S COUNSEL]: Your Honor—

THE COURT: You didn't try them.

[LAWSON'S COUNSEL]: We did not try them.

THE COURT: You relied for better or for worse on the summary judgment decision.

[LAWSON'S COUNSEL]: Correct.

THE COURT: And your appeal point is that the "Court erred in failing to grant summary judgment.["]

[LAWSON'S COUNSEL]: Correct, Your Honor.

THE COURT: That's where the matter stays. There's no judgment to be obtained on that at this juncture, I don't think.

*5 J.A. 3929.

The jury returned a verdict for ePlus. It found that Lawson directly and indirectly infringes claim 1 of the '[172 patent](#)' and claims 3, 26, 28, and 29 of the '[683](#)

[patent](#)' by using and inducing the use of systems that include the combination of Core Procurement, Punchout, and RSS modules (with or without EDI). The jury also found that Lawson directly and indirectly infringes claim 1 of the '[172 patent](#)' by making systems that include the Core Procurement and RSS modules (but not Punchout and EDI).

After the trial, Lawson filed a renewed motion for JMOL under [Rule 50\(b\), Fed.R.Civ.P. 50\(b\)](#). Therein, Lawson generally argued that the system claims were indefinite and also incorporated by reference its indefiniteness arguments made during claim construction and at the summary judgment stage. The district court again denied the motion and entered judgment of infringement against Lawson.

ePlus accordingly filed a motion for a permanent injunction, which the district court granted on May 23, 2011. The district court's order enjoins Lawson from making, using, offering to sell, or selling products in those configurations that the jury found to infringe ePlus's patents. It also enjoins Lawson from actively inducing or contributing to the making, use, sale, or importation of those configurations, as well as from installing, implementing, upgrading, maintaining, supporting, training and other related services for the infringing products. Lawson subsequently filed a motion and asked the district court to clarify and narrow the scope of the injunction. In particular, Lawson argued that the district court should not have enjoined Lawson from servicing products that were already sold to customers prior to the issuance of the injunction. The district court denied Lawson's motion. This appeal and cross-appeal ensued. We exercise jurisdiction pursuant to [28 U.S.C. § 1295\(a\)\(1\)](#).

II. STANDARD OF REVIEW

[\[1\]\[2\]\[3\]\[4\]\[5\]\[6\]\[7\]\[8\]](#) We review the district court's denial or grant of a JMOL under regional circuit law. [ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc.](#), 694 F.3d 1312, 1319 (Fed.Cir.2012). That requires us to apply the law of the Fourth Circuit here, which reviews de novo denials of JMOL for whether substantial evidence supports the jury's verdict. [Id.](#) (citing [Carolina Trucks & Equip., Inc. v. Volvo Trucks of N. Am.](#), 492 F.3d 484, 488 (4th Cir.2007); [Brown v. CSX Transp.](#), 18 F.3d 245, 248 (4th Cir.1994)). We also review de novo the district court's decision regarding indefiniteness, as it is a question of law. [Ergo Licensing, LLC v. CareFusion](#)

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303, Inc., 673 F.3d 1361, 1363 (Fed.Cir.2012). The district court's decision to grant an injunction and the scope of the injunction are reviewed for abuse of discretion. i4i Ltd. P'ship v. Microsoft Corp., 598 F.3d 831, 861 (Fed.Cir.2011), *aff'd on other grounds*, ___ U.S. ___, 131 S.Ct. 2238, 180 L.Ed.2d 131 (2011). Regional circuit law governs our review of the district court's decisions whether to admit expert testimony, Micro Chemical, Inc. v. Lextron, Inc., 317 F.3d 1387, 1390–91 (Fed.Cir.2003), and whether to sanction a litigant under Rule 37, ClearValue, Inc. v. Pearl River Polymers, Inc., 560 F.3d 1291, 1304 (Fed.Cir.2009). The Fourth Circuit reviews both for abuse of discretion. S. States Rack & Fixture, Inc. v. Sherwin-Williams Co., 318 F.3d 592, 599 (4th Cir.2003)(Rule 37 sanctions); Kopf v. Skyrm, 993 F.2d 374, 378 (4th Cir.1993)(expert testimony).

III. THE APPEAL

*6 Lawson raises three issues on this appeal. First, it argues that the district court should have found that the two asserted systems claims are indefinite. Second, it argues that the evidence presented at trial does not support the jury's finding of infringement of the method claims. Third, in the event that the infringement ruling stands, Lawson urges us to hold that the district court's injunction order is impermissibly broad. We address each argument in turn.

A. Indefiniteness

[9] Lawson argues that claims 1 of the '172 patent' and claim 3 of the '683 patent' are invalid for indefiniteness. In particular, Lawson argues that the specification does not disclose an accompanying structure for the "means for processing" limitation that these two claims have in common. ePlus counters that Lawson has waived this argument, and that in any event the specification discloses sufficient structure. We address each argument in turn below.

First, we hold that Lawson has not waived its indefiniteness argument regarding the means for processing limitation. Prior to trial, Lawson moved for summary judgment, arguing that the specification does not adequately disclose a structure for the "means for processing" limitation. J.A. 7573–74. The district court rejected Lawson's argument, and Lawson did not raise the issue again at trial. Nor did Lawson raise the issue in its first (pre-verdict) JMOL motion. *See id. at 3851*. At the hearing relating to that motion, however, Lawson's attorney informed the district court that it

sought a ruling that the system claims are indefinite. *Id. at 3928–31*. The district court responded that in its view, Lawson could not seek a JMOL based on indefiniteness because the issue was not raised during trial. After the jury verdict was delivered, Lawson again sought a JMOL. This time, Lawson argued (in writing) that the system claims are invalid for indefiniteness, yet it did not mention any particular limitation.

[10] ePlus argues that because Lawson did not raise the issue of indefiniteness at trial, and because the JMOL motions were not sufficiently specific, Lawson has waived its right to appeal indefiniteness altogether. We disagree. It is generally true that "[a] party may preserve an issue for appeal by renewing the issue at trial or by including it in memoranda of law or proposed conclusions of law." United Techs. Corp. v. Chromalloy Gas Turbine Corp., 189 F.3d 1338, 1344 (Fed.Cir.1999). But that rule does not present an obstacle to Lawson's indefiniteness argument. To begin with, indefiniteness is a question of law and in effect part of claim construction. Thus, in a case like this, when the arguments with respect to indefiniteness are not being raised for the first time on appeal, we do not readily find a waiver. *See, e.g., Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311 (Fed.Cir.2012) (holding that because Noah had made the same indefiniteness arguments during claim construction before the district court, waiver did not apply); United Techs., 189 F.3d at 1344 ("A denial of a motion for summary judgment may be appealed, even after a final judgment at trial, if the motion involved a purely legal question and the factual disputes resolved at trial do not affect the resolution of that legal question."); *cf. Lisle Corp. v. A.J. Mfg. Co.*, 398 F.3d 1306, 1317 (Fed.Cir.2005)(holding that A.J. had waived its indefiniteness defense where, in the Final Pretrial Order, A.J. merely reserved the right to appeal the defense contingent on this court's adopting its proposed claim construction of "detachably cooperative," which we rejected). Moreover, the district court and ePlus were made aware of Lawson's indefiniteness argument regarding the "means for processing" limitation—not just at the summary judgment stage, but also at the JMOL stage. And, it is abundantly clear from the record that the district court did not intend to revisit the indefiniteness issue once it denied summary judgment. Given that indefiniteness is an issue of law, the district court regarded its ruling on summary judgment to be the last word on the matter until appeal. Indeed, at the hearing relating to Lawson's first

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motion for JMOL, the district court stated to Lawson's counsel that the indefiniteness argument was mature for appeal. *See supra* part I.C. In light of the specific facts of this case, Lawson was not required to ignore the writing on the wall and press the issue over and over again to preserve it for appeal. In sum, we reject ePlus's waiver argument. *See also Harris v. Ericsson*, 417 F.3d 1241 (Fed.Cir.2005) ("An appellate court retains case-by-case discretion over whether to apply waiver.").

*7 [11][12][13] Turning to the merits, we note that there is no dispute that the system claims are drafted as means plus function claims under 35 U.S.C. § 112. "A patent applicant who employs means-plus-function language 'must set forth in the specification an adequate disclosure showing what is meant by that language.'" *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1367 (Fed.Cir.2008) (quoting *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed.Cir.1994) (en banc)). "[I]n a means-plus-function claim 'in which the disclosed structure is a computer ... programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.'" *Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed.Cir.2008) (quoting *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed.Cir.1999)).

We agree with Lawson that the specification does not disclose sufficient structure for the "means for processing" limitation. There is no dispute that the function claimed in this limitation is generating one or more purchase orders based on a requisition list. The

district court determined that the specification discloses "a purchase order generation module." J.A. 147. But there is no mention of such structure in the specification. Nor is there anything else that describes what structure specifically corresponds to the means for processing limitation.

The district court identified three passages in the specification and three accompanying figures as those that disclose the required structure, and ePlus points to the same here on appeal. J.A. 147 (citing '683 patent, col.1 ll.37–59; col.3 ll.3–24, ll.43–54; col.15 ll.20–59; Figs. 1–3). None suffices. The first passage appears in the "background" section of the specification and only describes various types of requisition and purchasing systems in the prior art; there is not even a mention of a structure. '683 patent, col.1 ll.37–59. The second passage only states that "the invention includes a means ... for generating one or more purchase orders for desired items from inventory locations stocking the items," but it does not say anything about corresponding structures. *Id.* col.3 ll.20–24. The third passage explains that "a requisition [that] has been inventory sourced and accepted ... can be converted to one or more purchase orders, as represented by step 114 in FIG. 3." *Id.* col.15 ll.20–22. It then explains how a single requisition order may be used to generate multiple purchase orders. But there is no explanation as to what structure or algorithm should be used to generate the purchase orders. And, step 114 in Figure 3, to which ePlus refers and is reproduced below, is just a black box that represents the purchase-order-generation *function* without any mention of a corresponding structure.

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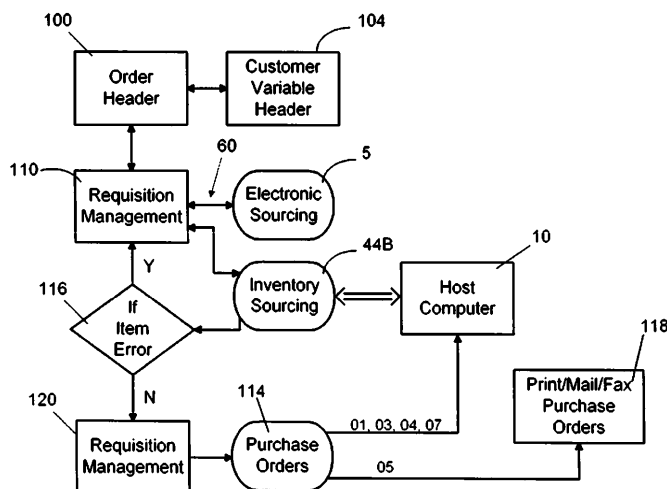


FIG. 3

lowing a particular algorithm. There is therefore nothing in the specification to help cabin the scope of the functional language in the means for processing element: The patentee has in effect claimed everything that generates purchase orders under the sun. The system claims are therefore indefinite.

*8 ePlus argues that it is not required to disclose a structure that corresponds to the overall function of generating purchase orders because implementing that functionality was already known prior to the '683 patent. According to ePlus, the specification need only disclose those aspects of the claimed invention that do not exist in the prior art—i.e., using a single requisition to generate multiple purchase orders. The suggestion is that by combining the teachings of the prior art and the '683 patent, one of ordinary skill in the art would know how to implement the claimed invention. See Cross-Appellant's Br. 56.

[14] We disagree. The indefiniteness inquiry is concerned with whether the bounds of the invention are sufficiently demarcated, not with whether one of ordinary skill in the art may find a way to practice the invention. *Aristocrat*, 521 F.3d at 1337. To assess whether a claim is indefinite, therefore, we do not “look to the knowledge of one skilled in the art apart from and unconnected to the disclosure of the patent.” *Id.* (quoting *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1212 (Fed.Cir.2003)). We rather “look at the disclosure of the patent and determine if one of skill in the art would have understood that disclosure to encompass [the required structure].” *Aristocrat*, 521 F.3d at 1337 (quoting *Med. Instrumentation*, 344 F.3d at 1212). Here, the specification does not disclose any structure that is responsible for generating purchase orders. There is no instruction for using a particular piece of hardware, employing a specific source code, or fol-

Finally, contrary to ePlus's argument, our decision in *Typhoon Touch Technologies, Inc. v. Dell, Inc.*, 659 F.3d 1376, 1385–86 (Fed.Cir.2011), does not compel a different result. There, the district court had found that the patent claim was indefinite because it did not disclose the source code or mathematical algorithm for a particular means plus limitation. We reversed, noting that “it suffices if the specification recites in prose the algorithm to be implemented by the programmer.” *Id.* That holding has no application here: The problem here is not the adequacy of the substance or form of the disclosure, but the absence of any disclosure at all. See also *Aristocrat*, 521 F.3d at 1337 (“The question ... is not whether the algorithm that was disclosed was described with sufficient specificity, but whether an algorithm was disclosed at all.”). Unlike in *Typhoon Technologies*, there is not even a recitation in simple prose that can be deciphered as a structural limitation on the patent claims. Thus, ePlus's reliance on *Typhoon* is unavailing. In sum, we hold that ePlus's system claims are indefinite.

B. Infringement

*9 There is no dispute that Lawson's system is capable of infringing the method claims. Indeed, Lawson does not even argue on appeal that its soft-

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ware products are not within the scope of ePlus's system claims, which are substantively quite similar to the method claims. Lawson nonetheless argues that ePlus failed to present sufficient evidence to establish that Lawson or its customers perform every step of the methods disclosed in claims 26, 28, and 29. Lawson also argues that the jury was not presented with sufficient facts to conclude that Lawson had the requisite intent and knowledge for inducement. Below, we address Lawson's argument with respect to each claim in turn.

1. Claim 26

[15] Lawson argues that the jury was not offered any evidence to show that any single entity (Lawson or its customers) performed every step of the method disclosed in claim 26. In particular, Lawson argues that no evidence showed that Lawson or its customers “determin[ed] whether a selected matching item is available in inventory.” Lawson points out that while employing the Punchout and EDI modules, a user does not have direct access to the third party vendors' inventory information, and it therefore argues that only the vendors may “determine” whether an item is available.

We disagree. Lawson is essentially raising a claim construction argument regarding the meaning of the term “determining” in the guise of a challenge to the sufficiency of the evidence of infringement. That is, Lawson's argument invites us to hold that “determining” is limited to the act of looking up an item in the inventory by the party that has ‘control’ over the inventory information. *See* Appellant's Br. 24–25. Under that terminology, a customer who causes a vendor to report whether a particular item is available does not “determine” whether that item is available. Of course, if Lawson desired such a narrow definition, it could (and should) have sought a construction to that effect. In the absence of such a construction, however, the jury was free to rely on the plain and ordinary meaning of the term “determining” and conclude that a user who prompts a vendor to report whether a particular item is available “determines” whether that item is available—much in the same way, for example, that one may call and speak to a sales representative at a local store to determine whether a certain item is in stock.

[16] With the determining step appropriately so defined, there remains no serious dispute that Law-

son's customers infringe claim 26. Moreover, in our view, the record contains substantial evidence to show that Lawson itself infringes claim 26. In particular, there is evidence that Lawson installed, maintained, demonstrated, and managed the infringing systems for its customers. The evidence includes course catalogs and webinar presentations offered by Lawson to its customers. ePlus also offered testimony at trial to the effect that Lawson's professional services include developing, installing, and testing “up to and including bringing a system live” for its customers. J.A. 1941. ePlus also provided the jury with evidence that the live testing phase included performing actual procurements using Lawson's systems. All of this circumstantial evidence permits a reasonable jury to infer that Lawson performed the steps of claim 26. Finally, we have reviewed the record and are satisfied that it contains sufficient evidence of Lawson's intent and knowledge to allow a reasonable jury to conclude that Lawson induced its customers to infringe claim 26. Thus, we affirm the district court's denial of JMOL of non-infringement with respect to the jury's verdict of direct and induced infringement of claim 26.

2. Claim 28

*10 [17] With respect to claim 28, however, we must agree with Lawson that the verdict of infringement is not supported by substantial evidence. One of the steps in method claim 28 is “converting data relating to a selected matching item and an associated source to data relating to an item and a different source.” There is no dispute that to perform this “converting data” step, a user must start with a desired item from a particular vendor and look up the equivalent of that item that is offered by a different vendor. At trial, ePlus's expert explained that to achieve this functionality, Lawson's systems rely on an international coding standard referred to as UNSPSC, which assigns a particular string of characters to each class of goods and services. When a user wants to find items equivalent to the one she desires, the system will search the UNSPSC codes of each item and will display those items that belong to the same class of goods as the one that is originally desired. It is important to note, however, that UNSPSC codes are not by default present in Lawson's products; each customer has the option of loading the code into the product for itself. So much is uncontroversial, for as we already noted there is no dispute that Lawson's systems are technically capable of infringing ePlus's method claims.

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The problem for ePlus is, however, that unlike in the case of the system claims, ePlus must establish that more likely than not at least one user used the accused systems to perform the converting data step (in addition to the remaining steps in claim 28, of course). But ePlus did not present any evidence to the jury to make that showing, either directly or circumstantially. Indeed, every mention of the converting step in ePlus's brief refers to the *capability* of the accused system, not an actual act of infringement. ePlus refers but once to any evidence of the use of UNSPSC by Lawson itself, and even then it characterizes the evidence as proof that Lawson taught its customers how to “find[] items by UNSPSC categories”—not to use those categories to convert a desired item offered by one vendor to an equivalent item offered by another. Cross-Appellant's Br. 29. Similarly, ePlus offered the testimony of two Lawson employees who testified that the accused product is capable of using UNSPSC codes, but neither stated that they (or anybody else at Lawson for that matter) had actually used that functionality. Nor does ePlus point to any evidence that shows Lawson's customers performed the data converting step. To the contrary, those customers whose testimony ePlus solicited either expressly rejected having ever used UNSPSC codes or denied knowing about the functionality. Because ePlus did not offer any evidence that showed or even suggested that anybody performed the converting data step, no reasonable jury could have concluded that claim 28 was infringed—either directly or indirectly.^{FNI}

3. Claim 29

Claim 29 depends from claim 28 and similarly recites the data converting step. For the same reasons that we set out with respect to claim 28, substantial evidence also does not support the jury's finding of infringement of claim 29.

C. The Injunction

*11 [18] Lawson argues that the district court abused its discretion in granting too broad an injunction. According to Lawson, because damages are not at issue in this case, the district court should not have enjoined it from servicing and maintaining products sold before the injunction issued. Lawson draws support from that proposition from this court's decisions in *Odetics, Inc. v. Storage Technology Corp.*, 185 F.3d 1259 (Fed.Cir.1999), and *Fonar Corp. v. General Electric Co.*, 107 F.3d 1543 (Fed.Cir.1997).

We disagree. It is true that we have held that servicing a product is equivalent to repairing it, and that “[o]ne is entitled to repair that which is sold free of liability for infringement.” *Fonar*, 107 F.3d at 1555. In *Fonar*, for example, the patentee had failed to mark its products in violation of the patent marking statute, 35 U.S.C. § 287(a) (1994). 107 F.3d at 1555. We affirmed the district court's determination that the accused infringer could not be held liable for inducing infringement for repairing those products that were sold prior to the filing of the suit. *Id.* Similarly, in *Odetics*, we did not see any abuse of discretion in the district court's refusal to enjoin an accused infringer from using or servicing products that were sold during a laches period, when the patentee had inexcusably failed to assert its patent rights. 185 F.3d at 1273–74. Our holding in these cases was based on the fact that the sale was authorized and free of liability. *Id.* at 1273; *Fonar*, 107 F.3d at 1555. Here, however, it just so happens that because of the district court's enforcement of the discovery rules, ePlus was not permitted to present any evidence of damages. That does not mean that Lawson was authorized to sell products that infringe ePlus's patent. Therefore, the district court did not abuse its discretion.

IV. THE CROSS APPEAL

[19] On cross appeal, ePlus argues that the district court abused its discretion in excluding its damages expert and also in ruling that it could not otherwise present any evidence of damages to the jury. We reject both arguments.

First, we hold that the district court did not abuse its discretion in excluding the testimony of ePlus's damages expert. To show damages, ePlus had planned to rely exclusively on the expert testimony of Dr. Mangum, who estimated the reasonable royalty base to be around four to five percent. As part of the analysis of the *Georgia Pacific* factors, Dr. Mangum noted that Lawson had entered into five settlement agreements. In two of those agreements, ePlus had obtained much higher amounts than the other three. Indeed, the sum of the higher two amounts well exceeded the sum of the smaller three by 1500%, and the highest paying agreement was over seventy times larger than the smallest. Moreover, the two larger agreements were paid in lump-sums; whereas one of the smaller three included a royalty percentage. And, the three small agreements were entered into at approximately the same time that this suit was filed, while the larger two

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were four to five years old. Dr. Mangum, however, gave great weight to the two highest paying agreements, explaining that the remaining three were not as informative.

*12 The district court found that Dr. Mangum's analytical method was flawed and unreliable. In particular, it found that the license agreements were not sufficiently probative because they were obtained during litigation and included lump-sums received for multiple patents and cross-licensing deals. The district court also observed that Dr. Mangum had ignored the settlements that produced smaller rates, even though one of them included a percentage rate rather than a lump sum.

ePlus argues that the district court erred and offers a number of justifications that purportedly support Dr. Mangum's analysis. We need not explore each one of ePlus's justifications, however, for the applicable abuse of discretion standard of review is highly deferential. It suffices to state that we are satisfied that given the district court's observations about Dr. Mangum's analysis, there is ample justification to arrive at the conclusion reached by the district court. ePlus's arguments to the contrary, therefore, are not persuasive.

[20] Nor do we see any abuse of discretion in the district court's decision to prevent ePlus from presenting evidence of damages. Trial management is particularly subject to the wide latitude of the district court. Here, the district court was reasonably concerned that any last-minute addition to the record would disrupt the proceedings and cause unacceptable delay. The district court was also concerned that by changing the damage calculation methodology on the eve of trial, ePlus would expose Lawson to an unjustified risk of prejudice. These concerns provided the district court with sufficient basis to preclude ePlus from presenting any evidence of damages at trial. Therefore, ePlus's second argument also fails.

CONCLUSION

We reverse the district court's determination that the system claims are not indefinite. We also reverse in part the district court's denial of JMOL to Lawson and accordingly vacate the judgment of infringement entered based on claims 28 and 29 of the '683 patent. We remand for the district court to consider what changes are required to the terms of the injunction,

consistent with this opinion. In all other respects, we affirm.^{FN2}

COST

Each party shall bear its own cost.

REVERSED-IN-PART, VACATED-IN-PART, AFFIRMED-IN-PART, AND REMANDED

^{FN1} ePlus also alleges that Lawson infringes the method claims under a divided infringement theory. Lawson counters that the divided infringement theory is not preserved for appeal. Because we hold that ePlus failed to show that anyone performed the data converting step at all, however, ePlus's divided infringement theory would fail in any event.

^{FN2} To the extent that we have not addressed any of the parties' arguments on appeal or cross-appeal, we have determined them to be unpersuasive.

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